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SPECTRUM ANALYSIS.

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To simply "freshen the edges" of memory I will here refer to a few well known physiological facts. Every tyro has knowledge of the change of the blood, during its passage through the lungs, from the dark purple to the scarlet tint. This change is also noted when venous blood is acted on by air, or, better still, by oxygen. Water darkens arterial blood; and strong solutions of common salt, saltpetre, and bicarbonate of potassa, brighten venous blood. According to Stokes, this difference is due to a change in the refracting power of the corpuscles, in their shrunken and in their distended condition. Examined by the microscope, blood, it is well known, consists of red and white corpuscles, and liquor sanguinis or plasma. From an analysis of venous blood by Lecanu, in one thousand parts, one half or five hundred parts are corpuscles, of which corpuscles, one hundred and fifty-six parts are solid. Of these one hundred and fifty-six parts of solid, hæmatin, or the red coloring substance, embraces about eight and a half parts.

Hoppe-Seyler found that when dilute solutions of blood were examined by the spectroscope, there appeared a brilliant spectrum, crossed by two peculiar *dark* bands, with a remarkably bright *intermediate streak*, situated in the yellow and commencement of the green, between the D and E lines of Frauenhofer. He showed that this spectrum was formed by the colored blood of animals generally. The alkaline carbonates and caustic ammonia, added to the blood solution, did not alter the red coloring substance, for the spectrum remained unchanged. When, however, acids were used, it seemed to be instantly decomposed; and the same effect took place, but more slowly, from the action of caustic alkalies; in both of these cases a substance being produced which caused different absorption bands, and corresponded with the hæmatin of Lecanu.

Let us follow Stokes in his experiments on the same subject. He placed his dilute solution of blood in a test tube. I might here digress a moment to remark that Stokes recommends carefully selected test glasses, instead of the small glass vessels with parallel sides. Browning, we are told, manufactures such glass tubes, and vessels of every required size and shape, especially in the form of a wedge, so as to test easily the same liquid at different successive thicknesses. He also furnishes, enclosed in glass tubes, a whole series of liquids, the absorptive power of which is either remarkably great, or else manifested in a peculiar way. A good way to use the test tube is to fill it with the liquid to be examined, and then place it close in front of the slit by means of a supporting ring attached to the end of the spectroscope; then direct the instrument, with the slit not too contracted, toward a luminous cloud, or bright light immediately in front.

Stokes easily discovered the two charac-

teristic dark bands, with the intermediate bright stripe. He added to the dilute solution of blood a reagent capable of abstracting oxygen. The reagent selected was a solution of the protosulphate of iron, containing a small quantity of tartaric acid, which prevents the precipitation of iron by alkalies; this was rendered slightly alkaline by a little soda. On making the addition, the spectrum at once changed. It first became a little darker; and a *single*, broader, and less defined band was now seen, situated nearly opposite the place of the bright band in the spectrum of the simple solution. The two characteristic dark absorption bands, with the intermediate bright streak, disappeared altogether. He next exposed the deoxygenated and changed colored solution to the air, when the spectrum with the three characteristic bands disappeared, the blood again becoming brighter.

Stokes has concluded from his experiments that there exists in the blood a *natural coloring matter*, called cruerin, hæmatocrystalline, or hæmato-globine, which can exist in two states of oxidation, in which its color and its action on the spectrum are different. In its bright condition it is named *scarlet*, and in its dark, *purple* cruerin, the former giving the spectrum with two dark bands and the intermediate light one; the latter affording the spectrum with a single dark band. The purple cruerin, or deoxygenated kind, is supposed to exist in venous blood; the other in arterial blood. Lecanu's hæmatin is an artificial compound produced by the decomposition of the natural coloring matter by powerful acids.

This cruerin, hæmato-crystalline, or hæmato-globine, is a wonderful substance. It has a strong affinity for oxygen. It holds the same relations to oxygen that the blood as a whole does. Red blood corpuscles have been called the *carriers* of oxygen, and they have this property because the natural coloring matter which they contain has such a special attraction for oxygen.

Hæmato-crystalline shows the same optic relations as blood. It is a crystallizable substance; the most indestructible known. It has the highest known atomic weight. Vitality is supposed to be directly dependent upon its amount in the blood. By the spectroscope the quantity and quality of this substance can be detected, and the vital force of an individual thus measured with scientific accuracy. This instrument will again bring transfusion into fashion; for, if hæmato-crystalline is the vitalizing principle, it follows that when vitality is at a low ebb the transfusion of healthy blood containing this substance will be beneficial. Instead of transfusing blood, hæmato-crystalline may be given internally. It can be imported from Europe, but I have obtained two receipts for its manufacture from Dr. S. Waterman, of New York, who published an interesting article on Spectral Analysis, in the *Medical Record*, from which some material for the present essay has been derived. In connection with Dr. Charles Carter, of the Northern Dispensary, I propose making a series of therapeutical experiments with this substance.

In toxicology and medical jurisprudence, spectrum analysis is justly taking a high position. Metallic poisons and vegetable poisons, and their alkaloids, tinctures and solutions of narcotic poisons, etc., yield their secrets to the spectrum test. In cases of poisoning from barium and thellium the spectroscope affords a peculiarly easy and reliable test for demonstrating the presence of these substances.

Roscoe, as a highly interesting point, refers to the fact that the blood, when it contains very small quantities of carbonic acid gas in solution, exhibits a very peculiar set of bands; and the poisoning by carbonic oxide—for, as is well known, the poison of burning charcoal is due to this carbonic oxide—can be readily detected by the peculiar bands which the blood containing carbonic oxide in solution exhibits; and hence we have these absorption lines coming out as a most valuable aid in toxicological research.

The detection of blood stains in criminal inquiries is a most important use of the micro-spectroscope. When the blood has been acted upon by various chemical agents the microscope fails to determine its presence; but the crystallizable substance of the blood retains its integrity so long that it can always be demonstrated spectroscopically. The exact position of the dark absorption bands in blood spectra is different from those formed by solutions of different substances resembling blood. In pursuance of this subject, Sorby studied the absorption bands given by a dilute solution of perchloride of iron, to which a little sulphocyanide of potassium had been added, a solution of cochineal, into which ammonia

had been introduced, a solution of cudbear in dilute alcohol, the gravy of wasted meats, etc.

Schellen, when speaking of the absorption phenomena of blood and other colored liquids, generalizes as follows:—"In many cases small changes produced in these coloring matters by dilution, by chemical action, or by the increase or diminution of the thickness of the stratum of liquid, are accompanied by changes in the absorption bands, so that a conclusion may be formed, from the position, width, and intensity of these dark bands, as to the nature of the coloring matter, and the circumstances by which it has suffered alteration. The two dark blood bands are seen in the yellow-green of a spectrum formed by either daylight or lamplight from water infused with but a trace of blood, and which exhibits to the naked eye scarcely a perceptible tinge of yellow. On this account, spectrum analysis has been called into the service of physiology and pathology, and is fitted to render valuable aid in medico-legal investigations, since it is not improbable that the spectroscope, when in connection with the microscope, will be able to detect the presence of blood or poison in many cases where the microscope alone can furnish no results, or only those of an untrustworthy character."

In speaking of the extraordinary delicacy of the spectrum test, I referred to the extremely minute quantities of sodium, lithium, etc., which could be detected in this manner. Sodium, potassium, lithium, cæsium, rubidium, and calcium, are metals which have been spectroscopically demonstrated in the human body. Dr. Bence Jones has used the spectroscope to follow the entrance and exit of some of these substances into the blood and tissues of living animals. Dr. Jones has also made spectroscopic researches, in which the *fluorescent* property of quinine is employed to follow that article into and out of the economy by its presence or absence in the crystalline lens of the eye. He has also shown that a peculiar fluorescent animal substance, named by him *quinoidin*, is constantly present in the animal body.

Urine and fæces have been subjected, with satisfactory results, to spectroscopic scrutiny; and there is no good reason why human milk, sputa, vomited matters, perspiration, and other secretions and exudations may not be, if they have not been already, examined in the same manner. Hæmatine has been discovered in the urine in intermittent hæmaturia. Dr. S. Waterman says: "The presence of hæmato-crystalline or hæmatine in the urine is, of course, easily detected. In diseases where an extensive destruction of blood corpuscles takes place, I have repeatedly discovered a beautiful band near F, at the commencement of the blue part of the spectrum. When this band becomes visible in the urine it indicates gravity of disease, and is a landmark to the practitioner, informing him that the vital powers of the patient are fast breaking up and passing away."

The urine and rice-water dejections of cholera have been investigated by spectrum analysis, and, it is said, give absorption bands of diagnostic value. The spectroscope has also thrown new light upon the shadowy Bright's Disease. By means of it, Dr. Thudichum has detected two new decomposition products, omicholine and omicholic acid, which probably cause the uncontrollable irritation of the stomach often present in chronic renal disorder. In the examination of bile in disease, spectrum analysis affords more reliable and valuable information than the famous test of Pettenkofer. The presence of the biliary acids in evacuations is easily demonstrated by their peculiar absorption bands.

In botany, and in botany applied to medicine, the spectrum test is of great value. If a solution in ether of chlorophyll—the green coloring matter of leaves—be submitted to the spectroscope, dark bands appear in the red, as well as in the yellow, green, and violet portions, and the blue shades give place to a faint red hue. This solution does not, therefore, absorb the whole of the red and yellow rays, but only those which possess a peculiar refrangibility or wave-length; it exerts the same influence on most of the blue and violet rays, while it transmits unchanged all the other colors of the white light.—(*Schellen.*) In the *Microscopical Journal of the Royal Microscopical Society*, July, 1870, a new spectroscopic test for albumen, botanical in its origin, is mentioned. A blue fluid, called phycocyan or the "dichloic fluid," obtained from certain algæ, ordinarily gives one absorption band; but when albumen is added to it it affords two; hence when it is mixed with urine containing albumen, the second band makes its appearance.

In ophthalmology, spectrum analysis has already been employed, and is doubtless destined to play a prominent part. I learn from the *Transactions of the American Ophthalmological Society* for 1871, that Dr. Lamansky, in a series of experiments, has shown that our eyes are more sensitive to green, yellow, and blue, and less sensitive to violet, orange, and red, than to white light, so that, by experiments with color sensations, the brightness of white is not exactly unity for the other colors to be compared with, as Aubert held in his experiments. * * The spectroscope has been used to detect states of color-blindness, and other abnormal conditions of the retina. It has also been employed to determine the capacity of colored glasses for spectacles suitable to individual cases. This instrument will, probably, in the end, clear up altogether the physiological phenomenon of color-blindness in eyes apparently healthy.

Before concluding, I will dwell for a few moments on the absorption of light by colored gases, a topic which has, at least, a medico-chemical interest. These gases, when prismatically analyzed, show only narrow dark bands, which, like black lines, often cross every color in the continuous spectrum. "For the exhibition of these absorption phenomena a glass globe is employed, smoothly polished inside, and capable of being closed at both ends by pieces of plate glass. The vapors for examination are introduced into the globe by a side opening; but if it be desirable that they should be formed during the investigation, the substances needed for their development can be placed in the vessel by removing the cover, and vaporized by a careful application of heat. The globe must be placed immediately before the prism, or close in front of the slit of the spectroscope, and in such a position in the path of the rays that they may pass through the inside of the sphere perpendicularly to the glass plates covering it." The vapors of nitrous acid, iodine, bromine, hydrochloric acid, perchloride of manganese, etc., have been examined in this way. In the case of nitrous acid the spectrum appears crossed by a row of dark bands, the violet end having disappeared. "By increasing the heat of the vapor these bands gradually become stronger, while new dark bands successively appear, until at last, when the temperature has reached a certain limit, all the colored portions of the spectrum are absorbed, and not a ray of the electric light is able any longer to penetrate the vapor. Brewster carried the process so far, by a constant increase of temperature, as to render the gas entirely opaque, even to the power of the sun's rays." * * Some vapors, as those of sulphur and selenium, although colored, do not produce any absorption bands in the spectrum.

I have thus endeavored to give a general idea of spectrum analysis, and more particularly of its relations to medicine. What I have touched upon in this essay is but a small fraction of that which has been achieved by the spectroscope. It is revolutionizing some of the sciences hitherto deemed most stable. Its actual and potential accomplishments are as manifold as the devices upon the shield of Achilles. Spectrum analysis has not only made "light into a ladder, on which the human mind can rise billions and billions of miles," but it is also giving to man the power so to use and direct this light as to illuminate with it the darkest recesses of biology. I doubt not that among the grand deeds of the future spectroscopic discoveries will stand proudly pre-eminent, like superior peaks in a lofty mountain range.

HIP-JOINT DISEASE.

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This disease, though the same in character as that which frequently affects other joints, is one of peculiar and serious interest and great importance. So much is this the case that few if any standard authorities of the present day can be found that do not treat of it separately, by chapter or other division, from the same disease affecting other joints of the body and extremities. This joint is the most deeply seated, attaches the largest extremity to the body, by enarthrodial articulation, and is so abundantly covered in by soft tissues and protected by the trochanter major, that at no point can we place our fingers over or upon the synovial investment. The same is hardly true of any other joint.

For this reason early or minute changes cannot be detected; to obtain fluctuation while the capsule is entire is impossible; and the morbid process may go on for some time before any abnormal conformation is discoverable; and frequently the complain-

ing of the patient would lead one not well informed in this disease to suppose that the malady was located elsewhere.

"The difficulty, or rather impossibility of fixing the pelvis with the hand, the projection of the trochanter, and the bend of the neck of the femur, rendering the true radius of motion very short, the mode in which the whole head of the bone is impacted in the socket, and many other circumstances, throw great obstacles in the way of a diagnosis concerning merely the presence or absence of hip-joint disease; and a minute distinction between the inflammation of one structure and that of another is extremely difficult, in very many cases impossible."*

The disease may begin in the acetabulum, the head of the femur, the ligamentum teres, capsular ligament, or the synovial membrane. Hence it may be divided into "arthritic, femoral, and acetabular." This division is not merely nominal, but of practical importance with reference to some points in the surgical management of the disease. The distinguishing pathological complexions of this disease are manifested by the gait, pain, attitudes, suppuration, sinuses, dislocation, and anchylosis. Among the first indications of the disease, especially where it comes on slowly, is a peculiar limping *gait*, in which the diseased hip is somewhat depressed, and a consequent curving of the vertebral column to accommodate the position of the pelvis. In the morning this may be scarcely noticeable in the very early commencement, but it is more marked towards evening and later in the disease. The subject will be seen limping, and with the diseased side a little behind the sound one, or, in other words, dragging more or less the limb of the diseased side; the thigh is partially flexed toward the abdomen, the foot usually turning outward, though sometimes inward, both while walking and standing, and in the latter attitude the weight of the body will be seen resting on the sound side, with the weight *only* of the diseased limb resting on the toes. The gait has been described as limping, or a kind of shuffling or hopping. This may continue for weeks, or even months, and frequently does so without attracting serious attention, either of the child or parents, but should always constitute sufficient ground for grave apprehensions on the part of the surgeon.

Later, the pain in coxalgia is variously located, and is seldom at first referred to the hip-joint itself, except in the arthritic variety. When it *is* located in that joint, it is very intense, and greatly increased upon any movement of the joint, however slight. When the acetabulum is the seat of the disease the pain is more apt to be referred to the iliac region at first, and later, in the joint, when it becomes deep seated, gnawing or grinding, severe, and fearfully increased by every motion of the limb, or by pressing together the articular surfaces. When the disease attacks the head of the femur the pain is usually referred to the knee, or the outer face of the thigh; but if the patient be directed to exactly locate the painful point, he may not be able to do so.

In all varieties of the disease the pain may be referred to the knee, or at least a pain at this point in a child, with the gait above described, should lead us to suspect the hip, which should be carefully examined by proper manipulations. In one case that came under my observation the pain was located in the lumbar and sacral regions, so markedly that two physicians that had treated the case at different times had treated the child for "spinal disease," and continued to do so until late in the second stage, at which time I saw it. The cause of the different locations of the pain has not, so far as I know, been satisfactorily explained, but has generally been attributed to irritation of the nerves that pass in close proximity to the joint. That in the knee has been referred to irritation of those branches of the obturator nerve that supply the hip-joint; also to an obscure sympathy supposed to exist between the two ends of the bone. Many theories have been advanced to account for the different locations of the pain, which are unsatisfactory, and teach us but little. The word sympathy comes quite as near as any one to covering the ground, but that is only a word which serves to cover up our ignorance of the real cause of its affecting this or that point, as the case may be.

The attitude of the limb and of the patient is peculiar; many of the points of this feature were given above whilst describing the gait; but the attitude varies with the different stages. Early in the progress the limb is usually abducted. This is caused by

* Barwell on Diseases of Joints, p. 296.

the partial contraction of the muscles on the anterior and outer aspect of the joint, the contraction being produced by local irritation of the nerves. At this time the knees will stand widely separated; but later abduction will take place, when the knees will be brought close together, or the knee of the diseased side in contact with the inner face of the thigh above the knee of the sound limb, at which time the former will be carried in advance of the latter, and if the patient stand up, which he can only do by resting on support, the thigh will be partially flexed on the abdomen, and to compensate this, the spine at the lumbar region will be curved forward, thus causing the patient to seem to stand nearer straight than he really does.

There is also at first, apparent elongation of the limb, but careful observation will soon establish the fact that this lengthening is not real, but is caused by a lowering of the diseased side of the pelvis. On the contrary, where elongation seems to be present, careful measurement will in many instances show some shortening. It has been supposed that effusion into the joint will cause elongation, but to my mind this seems impossible, as the ligaments of the joint hold the head of the femur in firm proximity to the acetabulum, and no amount of effusion could be likely to lengthen them, and thus cause the supposed elongation. On the contrary, I can conceive how the head may be more firmly held in position by the large effusion of fluid into the joint, viz., by pressing the unyielding capsule outwards, like a bag being distended with air or water, and in proportion as this is pressed out, is the head caused to press more firmly into the acetabulum. This, I think, would also in part account for the gnawing or grinding pain so constantly present during the second stage.

In the third stage, *real* shortening occurs from disintegration of the head of the femur or acetabular cup, and may, though rarely, occur from dislocation. The great apparent shortening is caused by elevation of the diseased side, which is often so great as to have led to the supposition that dislocation had occurred, when, in reality, this was not the case.

Suppuration quite invariably occurs unless the disease is detected and well treated during the first stage. In the scrofulous subject it is liable to run on to suppuration, even if well and early treated. When the head of the femur or the osseous surface of the acetabulum is the seat of the trouble, suppuration almost invariably takes place, but in the arthritic variety pus is scarcely more liable to be formed than when the same kind of inflammation attacks other joints, and we know that we frequently see it run its course in other articulations without aboutissement. It never occurs during the first stage, nor till the latter part of the second stage. The point of exit for the pus is of interest in a diagnostic point of view, and will be considered under *Sinuses*.* "An attentive examination of the position and direction of these is of great importance in forming an opinion as to the seat of the osseous disease.

"There are three *situations* in which sinuses are met with, which vary according to their points of origin from the abscess, and the position of the diseased bone: hence it is of importance to note their site and direction. 1. When the sinus opens two or three inches below and a little in front of the great trochanter, about the insertion of the tensor vaginæ femoris muscle, the disease is almost invariably *femoral* in its origin. 2. When the sinus is in the gluteal region it may indicate femoral, but not unfrequently is dependent on *pelvic* disease; the acetabulum or a portion of the dorsum ilii being the part involved. 3. The sinus may open in the pubic region, either above or below Poupart's ligament. A sinus in this situation is almost certainly diagnostic of disease of the pelvic bones, especially the pubic aspect of the acetabulum. When it appears *above* the ligament it probably leads to intra-pelvic abscess. On the other hand, when the abscess opens below Poupart's ligament there is generally disease of the rami of the pubes or ischium."

It will thus be seen that the location of the sinuses will be of greater diagnostic value than would *a priori* be supposed, as by them almost the exact point of the origin of the disease can be told with tolerable accuracy. Attention to these points is of all the more value when we remember that the probe often fails to reveal the diseased point and its extent. The sinus is often so tortuous that a probe cannot be made to follow it, or if the probe does follow the sinus, a portion of healthy bone, a bit of loose cartilage, or plastic material that has been

* Erichsen's last Ed. by Ashhurst.

thrown out during the process, may intervene between the end of the probe and the diseased osseous tissue. When the disease is indicated as being femoral, we may quite invariably know it to be carious in its nature, but when the acetabulum is indicated, we may judge with equal certainty that it is necrosis, the latter being the form of morbid action that attacks the pelvic bones, while the former is that which usually attacks the head of the femur.

Dislocation. This is a vexed question. Does dislocation frequently occur, or does it not? It is my opinion, which may go for what it is worth, that dislocation does not frequently attend this disease, the statement of many authorities to the contrary notwithstanding. The great amount of shortening present in the third stage has led many into the error of supposing that dislocation has occurred; but this shortening, which is from one to three inches, or even three and a half, is caused by the elevation of the diseased half of the pelvis, and waste of osseous tissue at the head and neck of the femur. The neck of the latter stands very oblique in young subjects, and this, with the head worn off, would alone shorten the limb probably an inch at least, to which add one to two and a half inches for elevation of the affected side of the pelvis, and you have accounted for all the shortening that usually attains. Nor is the pelvic elevation more than can easily be effected by slightly curving the spine. We will suppose there is a shortening of three inches; that will bring the heel at least opposite the internal malleolus of the sound limb, or above it, in a young subject. Now if to this we add enough, or as much more as dislocation upon the dorsum ilii would cause, we may add at least two inches, and this would bring the heel to near the middle of the calf of the sound limb, or, at least, up to the junction of the middle and lower third. Hence, to have dislocation after the head and neck of the femur has been worn off, and dislocation seldom occurs before that time, we must have, at least, four inches of shortening, and will be more likely to have five or six.

Another cause* for shortening without dislocation is found in the fact that the action of the muscles upon the hip during the course of coxalgia is such as to keep the head of the bone constantly pressing hard against the upper lip and surface of the acetabular cup; and this constant pressure and friction, the latter caused by frequent spasmodic contractions of the muscles, causes the diseased action to be more prominently seated at this point, and to wear or grind its way into or through the acetabular lip, and into the cancelous structure of the bone above it. One inch of shortening may occur in this way. The head of the femur is held against the yielding surface firmly by the pyriform-obdurator and other muscles that are so immediately related to the capsule, while the burrowing upward, or upward pressure, is caused by the organic and spasmodic contraction of the adductors. Barwell states, "that such evident yielding to the pressure upwards is not an exceptional case, but is the rule; that when we find a hip-joint ulcerating in any other way and position, it is that some rare circumstance has caused a primary osteitis in that particular spot."

Barwell (p. 317) further states that "*Dislocation* of the head of the bone from disease, or spontaneous dislocation, as it is called, is an occurrence so unusual that one is astonished at the general credence in its frequency. Only a few years ago, all cases of this disease were supposed to end in this way. (Loc. cit.) But if a search be made in the College of Surgeons, St. Thomas, St. Bartholomew's, or other of our great pathological museums, there will be found but very few specimens exhibiting simultaneously the signs of morbus coxarius and of dislocation. On the other hand it is by no means uncommon to find the head and neck of the femur shriveled to little more than a button-like projection, the acetabulum quite altered in form and place, and yet the bone retained in its cavity."

Liston, Bauer, March and Gross assume the same ground. The latter states that* "A true luxation, such as occurs in the normal state of the parts from injury is, in fact, impossible, from the very nature of the morbid alterations in the superior extremity of the bone." These authorities claim that luxation may, but rarely does take place, and that it only does so where there is the most extensive softening and destruction of the soft tissues enveloping the joint.

On the other hand, Brodie, Cooper, Partridge, Furguson, Dewit, Erichsen and

* For illustration of this fact see Barwell on Diseases of Joints, page 313.

* Gross' Surg. 3d ed., 1 vol., p. 1027.

many others claim that dislocation is of frequent occurrence. The latter says: (p. 768, last ed.) "In the advanced forms of hip-disease, dislocation of the head of the thigh bone *commonly* (italics mine) occurs." I think, however, there is sufficient reason given above to doubt the frequent occurrence of dislocation and that the mistake has occurred in consequence of the fact that sufficient notice has not been taken of the lateral elevation of the pelvis on the diseased side, and of the grinding off of the head and cervix of the femur, as well as its burrowing or ploughing its way through the superior lip of the cotyloid rim.

Anchylosis. When recovery occurs without excision of the head of the femur, anchylosis nearly always takes place. This may be effected either with or without the formation of pus. It is far better for the subject to have it take place before suppuration becomes established. There is nearly always more or less deformity when anchylosis is effected, not only at the hip, but of the spine. The joint may become fixed at any angle with the body, and that, too, in the best of hands. Thus, one may take place with the limb abducted greatly, while another may be adducted; a third with the thigh flexed immovably toward the pelvis, at a greater or less angle with the body. These deformities are very well shown by cuts of cases that had recovered from this disease with fixed hip-joints, in the Children's Hospital at Philadelphia, under the care of Dr. H. Lenox Hodge. I have heard it charged that such deformity was the result of neglect and malpractice on the part of the surgeon. To say the least of such an expression, it shows a very great, almost unpardonable degree of ignorance, in reference to the nature, management and results of cases of this class.

The *Pathology* of this disease is about the same in general character as the same disease affecting other joints. The morbid changes will be found to vary according to the tissue first attacked, *i. e.*, whether hard or soft. In the synovitic variety there will be, early in the course, an abnormal degree of vascularity and some opacity and thickening of the membrane affected, attended also with an increased secretion. Plastic matter will soon make its appearance, and will be either attached to some portion of the inflamed surface or floating in the synovia, which, by this time, has become more than normally thick, and turbid to some degree. Later, there is a greater quantity of lymph thrown out, and the membrane becomes more intensely injected, and the fluid of a dirty or glue-like color. If it pass beyond this point, pus is formed and degeneration of the ligaments and cartilages occurs, after which the bone is sooner or later attacked with caries or necrosis, most likely the former.

If the subject be highly strumous, the synovial membrane or inner surface of the capsule passes through changes similar to those above, but the process is more nearly similar to that of granular inflammation, and these surfaces are found studded with granulations over the entire portion of the diseased surface. After pus is once formed, the case naturally runs on to abscess at or near the joint, and fistulous openings are established. The tissues around the joint become more than normally vascular, and thickened or indurated. When the head of the former becomes involved, or is the first point of abnormal departure, "the cancellated structure" becomes "abnormally vascular, light, porous, humid, and at the same time easily broken or cut." The cells are found filled with tubercular matter, or it may be found in small masses through the cancelli, either partially solid, or of a caseous consistence.

After this stage is reached all the usual pathological changes connected with caries of the bone will be present, and the destruction will go on more or less rapidly, until the entire head and neck of the bone is destroyed, or the death of the subject ends the process. True, in hip-joint disease, after this stage is reached, recovery may take place through anchylosis, but more frequently dissolution occurs, unless the surgeon interferes. If death does occur, the joint will be found fearfully disorganized; if recovery takes place it is by the process of establishing healthy bony granulation, and osseous union occurs.

In fatal cases there is nearly always found abundant evidence of visceral involvement, especially in markedly strumous subjects. These visceral mutations are the direct result of the establishment of the tubercular diathesis, during the long exhausting course of the disease, or this cachexy may have been constitutionally present, and have been more rapidly developed while the joint disease was passing through its ravaging morbid process. On this account, tubercles may

be found located in any organ or place where they are ever found in true tuberculosis. I think, however, that this visceral involvement and tubercular diathesis may become developed, in many of these cases, during the long debilitating course of the trouble, where no primary or constitutional taint originally existed, *i. e.*, in cases of synovitic coxalgia, that, from bad management or otherwise, go on through the stages above described. It may have begun in an apparently healthy child, have been the result of a rheumatic diathesis, or excited by accident or cold. It nevertheless is attended with the same or very similar local and constitutional results, and the end is much, if not precisely, the same in a pathological point of view.

Arthritic Coxalgia commences in some one of the soft structures immediately surrounding the joint, viz., in the synovial membrane, the cartilage, the ligaments, or the capsule. When this is acute, and runs a rapid course, the suffering is most intense, and the slightest motion or jarring will call forth pitiful expressions of pain, which is of the severest character. It is probable that this form more frequently attacks the synovial membrane or capsule than either of the other two structures named. These, however, are only the primary seats of the disease, for sooner or later its effects extend to the osseous tissue, unless checked either by nature or treatment during the first stage. In this first stage, there is an unusual amount of synovia secreted, which greatly distends the capsule, thus pressing upon the nerves immediately surrounding it; and this, with the inflamed surfaces and tissues within the capsule, gives rise to the pain. The pain, though nearly continuous in some degree, is nevertheless spasmodic, *i. e.*, after a few moments or hours of comparative ease, the most agonizing pain will suddenly attack the joint, which will again subside for a time, to be again followed by successive ease and intense suffering.

The synovia may be so freely secreted as to burst the capsule. If this occurs, a period of comparative relief follows, and the intense suffering will not again be as great, unless the disease go on to the formation of pus and abscess, when, if possible, it is even more severe than during the former stages. It is said that true lengthening in this form of coxalgia really takes place. This statement I am much inclined to doubt, for reasons before mentioned, though the statement comes from the best of authorities, and those who have lately written on the subject. If the capsule does give way, in consequence of pressure from the excessive secretion of fluid, the chances of early recovery are not so good as where this does not attain. Again, if the rent is large, and the disorganization of the ligaments and cartilages within the capsule be great, luxation of the head of the bone may possibly take place. Where this form takes a favorable turn the recovery is more or less complete. The probabilities are that the joint will be more or less stiff, or even perfectly so; but in one case that came under my observation, in which the attack was, though slow in developing, intensely severe, and continued for several weeks, the patient was eight months undergoing recovery, which finally so completely took place as to leave but a very slight degree of stiffness and a slight sense of weakness in the joint on attempting to raise heavy loads.

If the disease run on to suppuration, all the pathological changes and evil results attain that occur in the worst forms of hip-joint disease.

In *Acetabular Coxalgia* the disease has for its primary seat of attack some point of the cotyloid cup, which at first is more apt to be necrotic; and especially is this so if it involve either of the rami. But it is not unfrequently carious in its nature. The symptoms of this are so similar to those of femoral that both will be described together. However, in this form there is apt to be a difference in the location of the sinuses* from that of femoral or synovitic, and the pain is more apt to be located in or immediately around the hip.

Femoral Coxalgia commences in the upper epiphysis, and is more apt to attack young subjects, while the acetabular form is more apt to attack youths or adults. This variety is more difficult to treat successfully than either of the others. It is also more liable to bring about a fatal issue, through visceral involvement, or from exhaustion through suppuration, which is always long continued and profuse. In fact, this is the form which is considered strictly tubercular, and to have its origin in that diathesis. Whether this is strictly true I somewhat doubt, for I think some cases of this kind have been excited in strumous subjects by

* See paragraph on Sinuses, *ante*.

injury, cold, etc.; and I am well satisfied that both of the other varieties are more frequently excited primarily by some exterior cause, as injury to the hip-joint, too great or too long continued exertion, cold, etc.

(To be Continued.)

AN ANOMALOUS CASE OF CARCINOMA.

REPORTED BY ABNER ANDREWS,
Of Westerville, Ohio.

(Read before the Ohio State Medical Society, June 12, 1872.)

T. L., male, aged 46. Temperament, nervous sanguine; for several years had not been in vigorous health. History of the case previous to medical attendance: October 1st, noticeable indisposition. There were pallor of the countenance, variable appetite, constipation of the bowels, coldness of the extremities, pulse accelerated. February, 1872, experienced pain and lameness in the left hip and limb; pain at times acute, and extending to the knee. There were swellings and hardness of the muscles about the hip, which for a time seemed to increase. At this time there was an inability to walk without the use of a cane.

March 25th, 1872, was first called to see the patient. *Abnormal manifestations:* general debility; loss of appetite; constipation of the bowels; urine high colored, and containing a large amount of sediment; tongue coated with yellowish fur; pulse feeble, and ranging from eighty to one hundred; extremities cold; restless at night. There was experienced at this time pain in the right hip, extending down the limb, with swelling and hardness of the muscles. The sharp pain in the left limb had subsided. Soreness in the hips so great that there was an inability to lie upon either side, patient being obliged to rest upon the back. There were swelling and hardness of the muscles of other parts of the body, especially of the right arm. At this period of the disease (March 25) there was ecchymosis in the bend of the right arm, extending over a surface from four to five inches in diameter, which disappeared in the course of a few days. The back also became ecchymosed, having a dark purple and yellowish hue, extending from the hips to the top of the shoulders, which condition continued until death. Some time in the early part of March there first was observed upon the head a small tubercle or tumor, "as large as the end of the finger." From this time to the 15th of March, a few were noticed upon the arm, and in a few days several upon other parts of the body. After this period the development of tubercles or tumors was remarkably rapid. Within the short space of two or three weeks, from the latter part of March to the 15th of April, their number had augmented to one hundred and fifty or two hundred. What seemed most remarkable, they appeared to "sprout up" and become fully developed in the short space of twenty-four or thirty-six hours, attaining their full size, and making no perceptible increase thereafter.

These tumors varied in size from that of a millet seed to a hickory nut. In form, some were rounded, others oblong or oval. In structure lobulated, and having an elastic feel, and were principally located in the subcutaneous cellular tissue. A large proportion of them presented no discoloration of the skin, while others were of a purple or dark purple appearance. After a full development of the diseased condition, about the middle of March, 1872, the vital forces rapidly declined, and the patient sank and died from exhaustion on the 30th day of April, 1872.

A post-mortem examination revealed in the cavity of the abdomen a large number of tumors on the serous membranes, in character and size like those found upon the surface of the body. Some were located upon the diaphragm; a large number upon the folds of the mesentery; and one or two upon the reflection of the peritoneal membrane upon the liver. There were none in the liver, spleen, pancreas or kidneys; these organs were in a comparatively healthy state. The psoas muscles were swollen and hard. The chest and cranial cavity were not examined. Upon section of a number of the swollen muscles there was found what appeared to the naked eye extravasated blood, in a partially decomposed state. After the death of the patient several of the tumors were extirpated, and portions of two were submitted to microscopical examination, Drs. Loring and Franklin, of Columbus, taking part in the examination. From the manifestations obtained in this examination, the cell form and its peculiar structure, the conclusion arrived at was that these tumors were carcinomatous, and in character encephaloid melanosis.

Medical Societies.

Central New York Medical Society.

The annual meeting of the Central New York Medical Society commenced its session in the Common Council chamber, in Rochester, on June 19, at ten o'clock. Dr. B. L. Hovey, of Rochester, President, in the chair. Dr. T. S. Brinkerhoff, of Cayuga county, Secretary.

Dr. W. S. Ely read a paper on Cholera, from which we make the following extracts:—

What its Salient Pathology.

The poison which produces the profound disturbance in cholera has been supposed to act primarily upon the blood as a rapid disorganizer, or primarily upon the nervous system, derangement of which excites blood changes. A few hold that we have to deal with a local intestinal disease (Snow's theory). Everything points to a specific poison of intense energy, which rapidly takes from the blood its water and salts, early affects the kidneys, causing suspension of urinary secretion, and, as the algid state is developed, lowers the temperature. I purposely omit symptoms, and pause not to detail frequently observed appearances of intestines, liver and kidneys, but desire to point especially to the pulmonary circulation, with reference to a theory of collapse now largely accepted. Collapse is not chiefly due to the drain of liquid from the bowels, as supposed, because collapse and discharges are often in inverse ratio. Stimulants do no good, and recovery is at times too rapid to be consistent with this view. What, then, is the explanation? It is that the essential cause of cholera collapse is an impeded circulation through the lungs, due to the contraction of minute pulmonary arteries upon poisoned blood. Autopsies of those dying in collapse show always the left heart empty, while the right heart and systemic veins are distended. There seems to be a "stop-cock" action of minute vessels upon the poisoned current by which it is arrested before it can reach the capillaries. A scanty oxygen-bearing stream results, and consequent lowered temperature, with suppression of the secretions dependent on oxidation, bile and urine. It is this pathological observation of the pulmonary condition that gives the strongest coloring to Johnson's "eliminating treatment." The discharge from the stomach and bowels being the means by which the poison is thrown off, we must aid them; but, alas! the poor patient can neither withstand the poison nor the shock to his system which its expulsion imposes.

The Treatment of Cholera.

With diverse views as to the causation and pathology of the disease, we expect a corresponding difference in methods of treatment. As in well-established cases about as many have died under one plan of management as another, not much encouragement can be offered for any particular line of practice. If you wish to give calomel in doses of 20 grains or ½ grain, if you make *opium* or *ipecac.* your sheet-anchor, or from a malarial stand-point give quinine, if you rely on castor oil and cold water, after Johnson, or decide to inject saline solutions into the veins, for the deceptive improvement it will furnish, or, finally, if you fold your hands and employ no medicine, I will furnish you respectable authority for any of these plans. This is not encouraging, and should stimulate our efforts to improve our therapeutical resources. The judicious treatment of symptomatic indications will save lives, and in the absence of more definite knowledge should be our rule.

Its Prevention.

Sad, indeed, gentlemen, would be the whole history of cholera did not great encouragement come to us under this head. Though study and research have confessedly added nothing to our ability to cope with the fully formed disease, they have resulted in incalculable benefit by pointing out the practicability of its prevention. The arrest of the premonitory diarrhœa is, in the large proportion of cases, possible, and in every cholera epidemic the public should be instructed in reference to it by published statements or house-to-house visitation. Remember that Fary, the great English statistician, believes that "the evidence of cases of algid cholera without premonitory diarrhœa is imperfectly established." A cholera scourge is always preceded and accompanied by an increase of intestinal disorders, and these are produced and aggravated by unsanitary conditions. It is now established, beyond question, that crowding of population, filthy streets, decomposing organic matter, and, above all, foul privies, and defective or clogged sewers, when taken with high temperature and moist air, are productive of diarrhœal disorders, and in cholera years favor the rapid spread of the epidemic. New York city has its "diarrhœal fields," as they are called, where the above conditions prevail every year, occasioning great mortality. Witness the cholera epidemic of 1866. It invaded these districts almost exclusively, and was only controlled by a thorough police and lavish use of disinfectants. It is not my aim to cite proof for these assertions; it is furnished in abundance in recent reports on cholera epidemics. Let one instance suffice. In the 1866 epidemic on Blackwell's Island there were 123 deaths in nine days. On the fourth day, when the epidemic was at its height, Dr. F. H. Hamilton gave his pledge to the Board of Commissioners that he would drive the cholera from the workhouse in from three to five days, if certain instructions were carried out. On the fifth day the pledge was redeemed, and not another case occurred. Turning all the inmates out of doors, and disinfecting every stool, every latrine, every vessel, accomplished this result. Of the epidemic in New York city it was said that "events proved

that vigilance was the price of safety. If any one doubts the necessity and usefulness of thorough cleansing and disinfection, the experience of September would remove such doubts." The problem of disinfection, then, is the one we should address ourselves to in anticipation of cholera, and in its actual presence. Thorough use of sulphate of iron, the chlorine and bromine compounds, carbolic acid and coal-tar agents, and fumigation of houses, conjoined with organized inspection, will rob the epidemic of its terror and its fatality. Quarantine should be enforced, but not regarded as an absolute safeguard.

The Committee on Communications announced an article entitled "Some Remarks on Pepsin," by Dr. Didama, of Syracuse.

The article referred to the humorous allusions to physicians' habits and diet made at a recent meeting of the Monroe County Society, and in the same strain described his breakfast at the Osborn House. The prevalence of dyspeptic difficulties in the community was alluded to. The history of a series of experiments with three specimens of pepsin, the German, French and American, was also given, and the deductions from his experiments were that pepsin, or artificial digestion, was a feeble agent, as well as in normal digestion. Grimaults, or the German pepsin, was proven to be the best, but as a therapeutic agent was of slight value.

The Committee on Communications announced an article "On the Use of Setons in Uterine Therapeutics," by Dr. Van de Warker, of Syracuse. The value of this form of treatment, as compared with the use of powerful caustics, was discussed at some length, and its apparent advantages described. Its use being novel in many respects, the attention of the profession was called to it. Cases in which it had been used were cited. The paper was favorably received.

Dr. E. M. Moore then read the history of a patient, a case of suppuration of the ankle joint, chronic in character, the patient being present. The disease proved to be "Caries of the Astragalus." This was treated by removal of the astragalus. This was done by crushing the bone, and removing the fragments, after treatment by splints, etc., the wound healing by granulation; not healing perfectly, the wound was reopened, and the diseased end of the tibia removed. The length of continuation of the case was remarked, and some speculations as to a different course of treatment made. The patient then exhibited the joint, which was a good one. The deductions made by Dr. Moore were that in similar cases, and those of compound dislocation of the ankle joint, the removal of the astragalus would be the course which he should pursue.

Annual Address.

From the address of the President, Dr. B. F. Hovey, we extract the following:

My only purpose is to present some of the popular obstacles thrown in the way of true medical science, and, if possible, correct an evil which is based upon those deficiencies of human judgment which are generally called "human folly."

Individuals who occupy positions of learning and influence, theologians and lawyers, and who in their general character have not the reputation of being arrogant or conceited, constantly and confidently place their opinion and views in opposition to those of the whole medical profession, and lend the influence of their names and position to the support of opinions which have not been to them a study, in opposition to the judgment of that profession which has made them a matter of most careful investigation. This fact proves that folly is not confined to the illiterate, or to those who are marked specimens of imbecility, but that it pervades all classes, dilutes learning, and humiliates station.

It shows also that the nature of the profession of medicine is not understood, and that the popular ideas in regard to it are formed from a most narrow and limited view of what constitutes the profession. These ideas are no doubt derived from an acquaintance with but a single division of the science of the profession, and this division is only brought in contact with the people. Individuals rarely stop to consider that the profession is composed of men who pursue it as an art, and that its working men assiduously labor and carefully drudge in the application of its means and details to their desired end.

Many, no doubt, regard the art of medicine (and perhaps most generally it is understood) as a mere routine acquaintance with the symptoms and names of diseases, and the application to those symptoms and diseases of certain remedies which experience has taught to be available.

But were such views correct, a decent modesty would teach those who feel the necessity of deferring to the judgment in his vocation of their tailor, shoemaker or blacksmith, to pay a similar regard upon medical subjects to those who have made them their study.

To him who has been educated in the profession a very different and more expanded view is presented. He sees it in its various divisions and vast arrangements spread out over the civilized world, and acting with all the power which can be derived from an aggregation of the highest order of intellect, disciplined and strengthened to the utmost for its work. In every branch or division of his profession he sees a large collection of names, whose ability and whose mental power demand the admiration of all who can appreciate their labors, labors to which nothing short of the greatest intellectual strength is adequate. Here the eye of the professional man extends over the entire civilized world, and he sees at a glance, men in the profession studying man in health and disease, from the microscopic elementary atom of each organ up to his full development.

The science of medicine, then, by its very nature, by the principles which govern the human mind, can limit itself to nothing short of attainable truth, and cannot be limited by, or bound to any system. In the science of medicine there can be no "old school" or "new school," and the use of such terms creates false impressions and misleads the popular mind. Professional truth, as it is seen by scientific men, should be presented to the people, and made a means to impart efficiency and understanding to the human intellect, as the best safeguard against any fallacy or system. When professional truth is properly presented and clearly understood, it must of necessity claim respect and confidence from the popular mind. History has sustained its decisions upon bygone medical delusions, no matter how strongly those delusions have been supported by popular enthusiasm; and it is certain that what the science of medicine now pronounces to be delusions will prove to be such. If any system or scheme sets itself above professional investigation—which is bound to seek for truth—and claims to be a new school or system, the claim and the pretension are alone proof that it is not true. If any new claim to medical science have the least particle of truth in it, according to the laws which mind must obey, that particle must be added to the general fund of medical science. We often hear it said that "new schools," systems or sects have medical hospitals, colleges and journals, independent of general medicine. If such is the case, it only proves that the disciples of such an arrangement have shut themselves in a very narrow circle, and prohibited themselves from the broad search for truth, wherever it may be found. They have bound themselves to a one-man dogma—to a system, not to a science.

There are a very large class of credulous persons who believe in all medical novelties and pretensions, while there is another class who repeat the maxim, "nature is the best physician," and refuse all aid for their maladies. This class imagine that they are sustained in their position, because they hear the most intelligent teachers of medical science say that our wisdom is derived from the observation of the laws of nature. The physician well understands that there is no relation whatever between the popular opinion referred to, and scientific obedience to the laws of nature. An acquaintance with these laws implies a vast amount of information, and teaches the natural means by which their irregularities are to be corrected, and teaches also the certain danger which permits the aberrations of nature's laws to go without correction. If one of these persons should receive a severe wound of an artery he would not trust to "nature as the best physician," but would apply to one, who from the observation of the processes of nature has learned how to stop the flow of blood. As great and as fatal injuries, from the progress of disease, may be going on in the organs, and this truster to nature does nothing and dies from a curable disease which would be very apparent to the skill of the physician who had been taught by experience and learning to search it out. We admit nature is the best physician, but nature requires an industrious and devoted work, to secure its co-operation and attendance in preventing and curing disease. Where her laws are neglected, she is apt to visit by disease as a penalty, upon those who are daring or unmindful of her requirements. So the best advisers to nature's laws are those who most assiduously study them in all their relations to man, and to be competent in this requires extensive learning. We may here claim and assert that the physician is then the vigilant observer, faithful follower and intelligent assistant of nature in preventing and curing disease. Those most learned in the profession know that while their chances of arresting disease depend upon the extent of their acquirements, yet they know that there is nothing attainable by human intellect which gives the power of certainty.

Dr. E. V. Stoddard, of Monroe, had some general remarks upon the pathology of cerebro-spinal meningitis. The characteristics of the epidemic recently prevailing in this county were pointed out, and the course of treatment which had proved most satisfactory. A tabulated statement of the peculiarities of a large number of cases was presented, and the comparative mortality rate of the disorder in this section shown to be lower than the average.

Dr. W. S. Ely exhibited an instrument for the easy extraction of beef juice, and made some remarks upon the efficacy of pure juice of beef as an article of diet in cases of extreme prostration.

Dr. Benedict, of Onondaga, reported a case of hemorrhoids which he had treated successfully with suppositories.

Dr. Miner, of Buffalo, then addressed the Society on the subject of ovarian tumors. His method he accidentally stumbled upon a year or two ago. The operation was performed without the ligation of the blood vessels. Several operations under this plan had been performed successfully. This might seem strange and beyond belief. He exhibited a tumor weighing eighteen pounds, which had been removed within twenty-four hours previous by himself, by his system. It obviates all the difficulties before discovered by surgeons in cases of ovarian tumors. On the conclusion of the Doctor's address he was greeted with applause.

The thanks of the Association were then, on motion, voted Dr. Miner for his able address and exposition of his plan or discovery.

Dr. E. M. Moore made some remarks on the dilatation of the female urethra. He gave several illustrations. For the purpose of dilating the urethra he had found—by accident as might be said—that the finger was the best instrument. This plan was entirely new so far as he knew.

One lady, Miss Amanda Sanford, M. D., of Cayuga Co., graced this meeting with her pre-

sence as a delegate from the Cayuga County Medical Society. Miss Sanford graduated from the Medical College at Ann Arbor, Mich., and passed two years in the Female Hospital in Boston, Mass. She is a highly educated lady, possessing a large practice in her specialty of treating diseases peculiar to her own sex.

The following officers were elected:—

President—Dr. Gilmore.

Vice Presidents—Dr. Bolter, Dr. Eastman.

There being no further business the Convention adjourned to meet again in this cityon the third Tuesday of December next.

Editorial Department.

Periscope.

Concealed Præ Partum Hemorrhage.

Mr. Joshua Parsons, of Frome, writes to the *British Medical Journal*:—

The three cases which I am about to detail have occurred to me at long intervals in a tolerably extensive midwifery practice of many years' duration; and, although they belong to a class well recognized and often described by writers on the subject, yet I have found in conversation that many brother practitioners of intelligence and experience, not having had their attention specially directed to such cases, possess but vague ideas of their nature and treatment. There are, however, few accidents interfering with the even tenor of natural parturition more distressing to witness, or calling for more clearness of diagnosis and decision of treatment on the part of the medical attendant, than those of which I am about to speak. It has, therefore, struck me that a record of these three instances, though not otherwise very interesting, may form a footprint for whose guidance some perplexed and anxious brother may be thankful.

Case I occurred in 1840. The patient was the wife of a weaver, a strong and healthy primipara, arrived at the seventh month of gestation. On February 8th she was seized with faintness and a feeling of painful distension of the abdomen; but, as no labor-pains occurred, no treatment was adopted by the midwife beyond keeping the patient in bed. As, however, the pallor and distension increased, I was summoned on the 12th, and found the woman exhausted and exsanguine to a remarkable degree. Upon examination, although there had been no pains or discharge, the os uteri was flaccid and dilatable, the membranes unruptured, and the face presenting. I had at the time no idea of the nature of the case with which I had to deal; but possessed with the dread, instinctive in an accoucheur, of seeing my patient die undelivered, and miles away from instruments or professional assistance, I introduced my hand into the unresisting uterus, and immediately delivered the small dead fœtus by the feet. Finding the abdomen but little diminished in size, I thought there was another child to be born, and plied the woman freely with brandy and ergot; and after a while had the satisfaction of finding the placenta thrown off. The cause of danger and perplexity then became evident; for I removed from five to seven pounds of old black coagula. The uterine surface of the placenta showed that it had been detached over its larger part. The woman slowly recovered to a great extent, but was ever afterwards an invalid and remarkable for her extreme pallor.

Case II occurred on December 4th, 1860, to one of those unhappy individuals whose bairntime (to use a Scotticism) was a catalogue of disasters. She had arrived at the eighth month of her eleventh pregnancy, when she was, at 4 o'clock on the morning mentioned, while lying quietly in bed, seized with sudden deadly syncope. As she lived close to my house, I saw her in a few minutes; and, recognizing the nature of the case, I examined and found the head presenting and the funis prolapsed. Being thus enabled to assure myself that the child was dead, and knowing from former experience that to deliver the patient with forceps was a work of time and difficulty, I did not hesitate to resort immediately to craniotomy, and, after giving ergot, to remove the placenta and a large mass of coagulum which appeared to be of recent formation. The patient recovered and had children subsequently.

Case III.—This patient is the wife of an innkeeper living four miles from my house, and was expecting her seventh confinement in November last. For four days she had been observed to lose her color, and complained of hardness and tension of the abdomen, but had continued to move about and attend to her household duties. On the afternoon of the 19th she fell suddenly in her kitchen, and was for a long time unconscious. When she was carried to bed, a slight discharge of blood was observed, and I was sent for, being told to come directly, as she had a fit. When I arrived she had become conscious, but was tossing about faint and pulseless, with no labor-pains, but

a slight sanguineous discharge from the vagina. On examination, I found the os about the size of a shilling, occupied by distended membranes, but very hard and resisting. I immediately sent to my son, Dr. Parsons, asking him to bring various instruments, and intending, as the urgency of the case seemed increasing every moment, to deliver as soon as he arrived. As, however, by reason of distance, a considerable time must necessarily elapse, I determined to do something; and so I ruptured the membranes, and gave at once two drachms of the liquid extract of ergot, repeating the dose in half an hour. Fortunately these means were successful in controlling the hemorrhage; and on my son's arrival the aspect of affairs had so much improved, that we considered it right to wait awhile and watch for the issue. About midnight labor-pains came on, and the woman was delivered naturally about 2 A. M. The child had been evidently dead for some days, and the placenta was followed by a great gush of fluid blood and many pounds of old clot. The woman is still suffering from exhaustion and bloodlessness, but will, I trust, ultimately recover.

The cause of the accident of which I have been speaking is, to me, obscure. In neither of these cases had there been any overexertion, nor had either of the patients been exposed to any of those shocks of body or mind which we are accustomed to see followed by hemorrhage and premature birth. In the first and third cases, the pallor and painful distension showed that a moderate discharge of blood had been taking place between the placenta and uterine walls for some days before a sudden and unaccountable increase occurred and produced the alarming symptoms already described. Although the issue was fortunate in these instances, yet I need not tell you it is by no means always so, two or three fatal cases having occurred within my own knowledge. In the last case, my distance from home led me to adopt measures which fortunately proved successful; but, looking at the tendency to sudden increase of symptoms, I would not voluntarily run the risk of delay, but should make it a rule, where I had reason to believe that subplacental hemorrhage was going on, to induce labor and complete the delivery of the patient by the speediest method suitable to each particular case.

I do not know any condition likely to cause difficulty in the recognition of this accident. In the second case, the sudden and complete collapse and violent pain might at first have led to a supposition of ruptured uterus or abdominal pregnancy; but the round, well-defined uterus, hard as a cricket-ball, and perhaps the absence of tenderness, would at once clear up the difficulty. In neither case did I observe any diseased condition of the placenta likely to account for its separation from the uterus, though the appearances plainly indicated that such separation had taken place to a very large extent.

Local Treatment of Gleet.

Dr. I. B. Woodson, M. D., Demonstrator of Anatomy in the Kansas City College of Physicians and Surgeons, writes to the Kansas *Medical Journal*:—

The writer takes it for granted that the profession at large consider gleet to be, in a majority of cases, an affection of the membranous and prostatic portions of the urethra, and posterior to the triangular ligament. This is his own experience in a large number of cases that have come under treatment, and he has seen but very few instances in which any considerable disease existed anterior to this part of the canal.

A little reflection will readily show why the disease so generally occupies this locality. A patient contracts gonorrhœa; from some cause the inflammation extends along the urethra until it reaches its membranous and prostatic portions, where it will linger an indefinite time in spite of all ordinary injections and constitutional treatment. It might be readily cured if it could be reached; but the writer firmly believes that an injection used in the ordinary manner never reaches the prostatic or membranous portions of the urethra; so that all the treatment amounts in fact to letting it alone, and it has but little disposition to get well of itself.

The opinion is entertained by some able men in the profession, that an injection can be thrown into the bladder from the meatus urinarius; but the writer has attempted the thing so often as to be convinced it is an impossibility. He contends that disease in this locality must be treated locally, by the actual contact of the injection with the diseased surface, to which should be joined external counter-irritation. He has used for the last three years the deep injections. These can be best applied by means of a rather large sized catheter, pierced at the curved end, with small holes for the space of two and a half or three inches, and having the eyelets closed. This instrument being introduced, the injection is thrown in by a strong rubber syringe, with a long beak large enough to fit tightly in the end of the catheter. This instrument the writer has found to be much better than the catheter-syringe. The disease being reached by these means, it is as easily controlled as it could be in any other situation. The writer has been so fortunate as to effect cures in cases that had baffled all the skill and patience that had been brought to bear upon them.

R—— F—— came under treatment July 10, 1869; had gleet following a gonorrhœa, contracted while in the army in 1862, *seven* years previously; had had more or less discharge ever since, but had never to his knowledge contracted a fresh clap. This case was treated by the method above mentioned, and also by a blister of cantharidal collodion applied externally to the whole length of the under side of the urethra; this treatment is rather severe, but it has generally been found to be effectual.

The injection used through the catheter was at first nitrate of silver, grs. 5 to the ounce of water. After a while it was changed for tinct. of iodine, dr. 1 to the ounce of water. As constitutional treatment the patient took tinct. of chloride of iron and tinct. of cantharides. This case yielded slowly. A great many different remedies were employed; but finally, at the end of three and a half months the overjoyed patient pronounced himself entirely well, and he has never been troubled with the complaint since.

C. P. S. came under treatment January 10th, 1870. Had had gonorrhœa very often; did not remember how many times; had had a discharge, variable in quantity, for nearly three years; had tried all manner of injections, and had taken "a barrel of copaiba," all of which had had only a temporary effect; he was then "as bad as ever;" and also had spermatorrhœa. The treatment was commenced by blistering the perineal portion of the urethra, and as soon as the resulting soreness permitted, the catheter was brought into requisition, and a mild solution of tincture of iodine, dr. ½ to one ounce of water, was injected; this was followed by nitrate of silver, and subsequently by Monsel's solution, and in two months the case was discharged cured.

The writer might mention a great many similar cases. The treatment is rational, and offers a vast advantage over any other of which he is aware. One great point is *patience*. The surgeon must not expect to take these cases by storm, and to cure long standing disease in a very short time. He must "fight it out on this line, if it takes all summer." There are very few cases that will resist the treatment if it is fairly applied. In a record of over twenty-five cases treated in this manner there was but one failure, and that was owing to the dissipated habits of the patient. The blister over the course of the urethra is especially recommended, even if it should confine the patient to bed; if it should, all the better for him. The cardinal point in the treatment of this disease is, that it is just like a similar disease of mucous membrane in any other accessible situation, and is, *mutatis mutandis*, amenable to the same modes of treatment.

Phosphorus in Skin Diseases.

This has been highly lauded by Dr. Fox and others. In an article in the *Dublin Journal of Medical Science*, Dr. EAMES says in reference to its continued use:—I have found that phosphorus produces a coated state of the tongue, not unlike the silvery tongue which follows the prolonged use of arsenic. Loss of appetite, mental depression, and bodily weakness, also are induced much earlier in some cases than in others, but to be watched for in all cases in which the drug is given. On the earliest appearance of dyspeptic symptoms I now discontinue its use, and administer some of the mineral acids. Many patients have mentioned that some two or three minutes after taking the medicine a pleasant sensation of warmth is felt through the entire body. I have not ascertained that any aphrodisiac effect is produced, though I have frequently inquired after it. A slight diaphoresis is observed occasionally. Diarrhœa was not induced in any of my cases. The amount of urine in some was slightly increased. An analysis made by my friend Dr. Cameron failed to detect any deviation from the standard of health.

Most of the foregoing cases had been treated by arsenic and other drugs before coming under my care. I have at hand notes of numerous other cases, which have been from the first treated successfully with phosphorated oil; these I have not detailed, as the intention of the present paper is to prove that the administration of phosphorus will cure certain cases of cutaneous disease, even after mercury, arsenic, and other remedies, vaunted as specifics, have completely failed to do so. I may mention, however, that eczema of the scalp, with enlargement of the glands of the neck, is very amenable to treatment by phosphorus. The strumous character of this disorder, and the difficulty of its removal, are very generally admitted. I have seen in many cases a copious eczematous eruption on the head and behind the ears, combined with greatly enlarged *glandulæ concatenatæ*, disappear in a few weeks after this treatment had been adopted, the glands being also quickly restored to their normal size.

Treatment of Small-Pox by Baths.

At a recent meeting of the Dublin College of Physicians, Dr. H. BENSON called attention to a form of treatment so prominently brought before the Society on a late occasion by Dr. Stokes. He referred to the treatment by the bath. He was so struck by the result in Dr. Stokes' cases that he determined to adopt the treatment in the next suitable case he met. In a very few days such a case presented itself. The patient was a gentleman residing in one of the suburbs of Dublin. He suffered from an extremely bad form of confluent small-pox. It was remarkably confluent, not only on the face, but also on every part of the body. The pustules were not well filled, but were flat, and the face presented the appearance as if a wax candle had been dropped over every part of it. During the secondary form the delirium became exceedingly troublesome, and the patient quite uncontrollable. For the previous twenty-four hours he had not been in bed for five minutes, and he had had no sleep for over thirty-six hours. Hypnotic remedies had no effect, and it was not possible to apply leeches or other applications to the head. With some difficulty he was placed in a slipper-bath, of the temperature of 98°, and he immediately exclaimed, "it's glorious, it's delicious, it's delightful." He became at once calm, collected, and obedient, and within fifteen

minutes he ceased to have any delirium. After half an hour he slept in the bath for two hours, occasionally waking for a minute or two while fresh water was being added. He (Dr. Hawtrey Benson) kept the patient in the bath for five hours and a half, removing him after that on account of headache which supervened. He was then put to bed, perfectly free from delirium, and with the help of fifteen grains of chloral (of which four times that dose had no effect previously) he slept uninterruptedly for eight hours. The case progressed from that out without the slightest check. Dr. Hawtrey Benson thought that this treatment did not receive its due measure of attention at the hands of the profession.

Dr. Grimshaw asked what was the temperature of the man's body when he went into the bath.

Dr. H. Benson replied that the temperature could not have been lower than 104°, and the bath was at least six degrees lower.

Theory and Treatment of Sea-sickness.

Dr. POLLARD says, in the *British Medical Journal*:—

The most probable theory of sea-sickness is that held by Dr. Carpenter, Mr. Bain, and other writers, who consider that the mental and bodily prostration and other symptoms arise from the continued action on the brain of a certain set of sensations, more particularly the sensation of want of support.

This feeling arising from the sudden loss of support, as when the footing or any prop that we lean upon suddenly gives way, is one of a most disagreeable kind. Should the accident have been perilous to life, as when the foot slips close to the edge of a precipice, or a rope cracks in Alpine climbing, a sickening feeling seizes the brain, the whole frame is agitated, and cold perspiration is felt all over.

The phenomena of sea-sickness appear to be due to the constant repetition of this feeling of loss of support, consequent on the pitching and rolling of the ship, more particularly the former. This explains the fact that the distress is most acute at the moment of the descent of the ship; whereas, when the part of the vessel in which the sufferer is placed rises beneath him, a comfortable sense of support is felt. It is well known also that the distressing sensations may be to some extent warded off if a downward motion of the body be made at the time of the ship's descent, and an upward motion when the vessel rises. In this way a kind of voluntary character is given to the sinking of the body, the nervous system is not taken so much unawares, so to speak, and thus the sensation of loss of support is less acutely felt. The feeling of want of support resides essentially in the muscular system; but the sensations of other senses contribute towards it. The sight of continually shifting lines and surfaces is an important factor; and on board steamer the constant vibration, the noise of the machinery, and evil smells of various kinds, are other items in the elements of causation.

That vision has something to do with the production of sea-sickness, is shown by the fact that closing the eyes will often keep off the sickness for a time; and in illustration of this point, we may refer to the general depression, faintness, and even nausea, which may be produced in susceptible persons by "doing" too many picture galleries in rapid succession, and this not dependent on the quality of the pictures themselves. That the vibration and noise may add to the general depression is shown by the painful effect produced on a person not used to it going into a large room of a cotton factory, full of steam-looms at work. As regards smell, I can testify that going down into a hot cabin and sitting close to a reeking joint of boiled mutton, has nearly brought on sea-sickness, only warded off by a timely retreat into the upper air.

The constant unpleasant impressions, then, on all the senses, contribute something to the mental depression and the bodily disorder which constitute sea-sickness; though, no doubt, the main factor in its production is the continual feeling of want of support, suggested partly by the visual organs, but chiefly through the muscular system.

As regards treatment, since sea-sickness arises from certain impressions on the senses, the obvious indication is to render these sensations as feeble as possible. Application of the mind to an engrossing book will keep it off for a short period; and Dr. Chambers relates that his having to bind up a broken finger of one of the seamen relieved his own distress for the time. But the mind will speedily become alive to the sensations which force themselves on its attention. In order to lessen them as much as possible, the patient should preserve the recumbent posture, as near the centre of the ship as possible; he should lie on a thickly padded couch, so as to diminish the vibration. Fresh air should be admitted in order to remove bad smells. The eyes should be shaded, and as much noise as possible shut out. As regards drugs, the most rational suggestion is that of Dr. Döring, of Vienna, that a full dose of hydrate of chloral should be taken shortly before the vessel starts; and even in long voyages the repeated use of this medicine will insure comfortable nights without the disagreeable after-effects of opium and chloroform.

AMERICAN MEDICAL ASSOCIATION.

The Triennial list of Permanent Members will be published this year. Permanent Members who have not paid their assessment will please notice:—

"Any Permanent Member who shall fail to pay his annual dues for *three successive years*, unless absent from the country, shall be dropped from the roll of Permanent Members."

WM. B. ATKINSON,
Permanent Secretary.

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S. W. BUTLER, M. D., D. G. BRINTON, M. D., Editors.

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ON SPECTRAL ILLUSIONS.

Dr. JOHN HENRY NEWMAN, in that remarkable volume of his, the *Apologia pro Vita sua*, says that a man who has once seen a ghost cannot be the same as if he had never seen one. That is very true; and it is remarkable how many people do see apparitions, or, if you will, spectral illusions. Sombody asked Coleridge whether he would be frightened if he was to see a ghost. "I have already seen too many," replied the poet-philosopher, "to be frightened at them." There was a depth of practical common sense in that remark, which makes amends for his foggiest speculations on the transcendental reason.

It is here, as in so many other things, the *ignotum pro mirifico*.

John Clodpole, going home at night, and whistling to keep his courage up as he passes the churchyard, is scared out of his five wits by the cow in the hedge, which he takes for a spirit; while Nicolai, of Berlin, who was attended for months by a whole troop of dancing imps, which nobody saw but himself, first described them in an able memoir to the Academy of Sciences, and then, rightly diagnosing that they depended on a disordered portal circulation, applied a dozen leeches to his arms, and, presto! quicker than if he had pronounced the mightiest exorcism of the cabbola, they disappeared forever.

So much for the difference between knowledge and ignorance, between the dark ages and a civilized epoch.

The fantastic images of delirium, the forms which the disordered brain of the drunkard pictures to his mind when on the verge of *mania a potu*, these are familiar to everybody. Why, then, should we wonder that occasionally, in apparent health, such bodiless visions present themselves to our gaze, startling us from our propriety, and scaring us, unless shielded by a knowledge of their impotence, into fearful thoughts of impending death and disaster?

Though, as we say, these apparitions are common in sickness, and not rare in apparent health, their precise cause is not clear. Recently, in *The Practitioner*, Mr. W. SPENCER WATSON has undertaken to demonstrate that a certain number or class of them have a physical cause in small extravasations of blood in the retina, which leads to the appearance of an extraneous object, to which, especially in a vague light, some form, fantastic, familiar, or ghastly, is assigned. This is especially true of such

visions as hav ermanence. He concludes:—

"It is possible in this way to understand how, in some cases, spectral illusions may be due to *physical* rather than to *psychical* causes, and such a method of explaining them will be reliable—1. When there is no other symptom of cerebral disturbance. 2. When the apparition is constant in its form and outline. 3. When it appears only in a particular axis of the eye. 4. When it is visible with one eye only; this is conclusive of the local character of the disease, quite independently of any other conditions, unless indeed the other eye is absolutely blind. 5. When ophthalmoscopic appearances, or those data obtained by oblique focal illumination, correspond with the descriptions of the supposed spectre. Whenever the spectral appearances change rapidly, and are numerous and variable, it is possible that they are due to cerebral causes, and cannot be attributed to intraocular disturbance alone."

Satisfied with this explanation, can we relieve our minds, and exorcise the flitting and variable ghosts, by some equally well-considered physical theory?

Dr. HIBBERT argues that they are analogous to those caused by nitrous oxide gas. This gas, he states, when inhaled with a certain proportion of air, produces an *increased volume* of the blood of the body, and the effect of this is to intensify all sensations, and especially those of a pleasurable kind. Then he points out that from the obvious shrinking of the tissues during the cold stage of an intermittent fever, we may assume the extreme mental depression associated with this kind of fever to be due to a *diminution* of the volume of the blood in the patient's body, consequent upon the presence of malarious gases.

Having, then, in these instances a *physical* cause of the intensification of impressions and bodily sensations—painful in the one, pleasurable in the other—the phenomena of delirium may be explained by further supposing an increased susceptibility to reproduce, as if by memory, the images of objects, which, existing only in the mind as *ideas*, are represented to it (in its morbid condition) as *sensations;* just as in dreams we are unable to recognize the difference between ideas and sensations.

We are not so sure of this reasoning as of the other, though we should be glad to be surer. For these ghosts are our kind, and it would be some satisfaction to argue out of existence a familiar spirit which once haunted us. It is not much of a ghost story, but as the best we have in personal experience we may as well not miss this chance of testing it.

The queerest point about it is that we saw that ghost in a fine, clear summer afternoon, when in perfect health, and just on leaving a playfellow. We walked from the room to go down stairs, and had proceeded but a few steps down when, there, leaning against the bannisters, facing us, with outstretched hands, clear and distinct in the summer light, stood a cowled figure, clothed in a long and flowing robe of some checkered material. The face was concealed by the hood, but the hands, seemingly grasping for us, were too horridly distinct ever to be forgotten. Thin, brown, skinny, the purple veins swollen, and coursing over and among the scarcely covered bones, there was no vagueness or uncertainty about their form and shape.

We screamed with fright, never taking our eyes from the figure. Our playfellow ran to see what the matter was. As he approached the whole vision floated into nothingness in mid air. Our health was good and remained so, but for a long time the fright oppressed the mind of even the healthy boy.

Grown older and wiser, that experience has impressed upon us the reality of many a story of haunted spots that others rejected; and the question of the nature and origin of these illusions has had an interest more personal than to many. Their influence in creating and sustaining superstitions, even in founding creeds and religions, has not yet

been fully understood. Their frequency in healthy subjects, which we have been at some pains to inquire about, is far greater than is generally believed. Afraid of ridicule, persons hesitate to confess to them till led on by a similar confession on the part of the inquirer. As to their cause, we are daily gaining means to determine it by the revelations of the ophthalmoscope and the study of functional nervous disorders.

Notes and Comments.

Mud Baths.

There are some baths in Hungary and Bohemia where visitors plunge themselves into a basin of soft mud instead of crystal water. These mud baths, *moorbader*, are quite popular in their neighborhood. So at Saint Amand, in the north of France, there are some famous mud baths salutary for diseased articulations, rheumatism, atrophy, etc. The patient is planted up to his neck in a hole in the soil filled with a black, soft mud, warmed by the thermal waters which well up through it.

We have some also in this country. In a late paper we notice that Grace Greenwood has become a convert to mud baths, and chants the praises of the Indian baths at the Geyser Springs, a California retreat, at the respectable altitude of 1690 feet above the sea. It is said that Edwin Forrest, while suffering from a severe attack of rheumatism some years ago, went into the Indian mud bath one day, and came out all ready to play Othello or Metamora.

Conservative Surgery of the Face.

The subjoined instructive case is reported by Dr. Meldon, in the Dublin *Medical Journal*:—

Thomas Dillon, aged thirty-five years, was conveyed to the hospital on September 3, 1870. As a laborer he was employed raising heavy weights on board vessels by means of a windlass; whilst so occupied the handle slipped, and flying round struck him on the face with tremendous force. On admission into the hospital he was quite insensible, and the face presented a frightful appearance. He had evidently been struck from the angle of the mouth on the right to the edge of the orbit on the left side. Both upper maxillary bones were fractured. The nasal bones pulverized; the prominent portion of the orbit flattened; the palate comminuted, and all the upper teeth, with their alveolar processes, and portions of the upper maxillary bones, hung loosely in the wound. The inferior maxillary bone was also fractured. The large flap containing part of the nose and upper lip were turned down over the chin and neck, suspended by two narrow portions of skin and muscle. A good deal of venous oozing was checked by cold. The upper teeth were replaced, and the soft parts brought as nearly as possible together, and kept in their place by means of sutures, together with an ordinary mask and a bandage. The right eye was found much chemosed, and although the lid was divided, it escaped all further injury. When the patient recovered sensibility it was found he could not swallow, but on the following day when the palate was fixed by means of a gutta-percha plate, power of swallowing returned. The patient made a rapid recovery, and left the hospital with a very good face. The teeth and bone attached remained for a considerable time so loose that they could easily have been removed by the finger and thumb; they have now, however, become quite firm, and he has made an excellent recovery. Some months after his leaving the hospital I performed a successful operation for entropion, caused by contraction after the accident; of the entropion there now remains not a trace to be seen.

Influence of Pregnancy on Uterine Cancer.

The following suggestions were made at a meeting of the San Francisco Medical Society, reported in the Pacific *Medical and Surgical Journal*:—

Dr. Whitney said: Does it not accord with universal experience that cancer is stayed in its progress by uterine evolutions? He ventured to say there was no one present but had seen the progress of cancer in the breast stayed by lactation. We did not see this disease in the child while growing. He agreed with Dr. Cole, that the tumor should not be removed. He had seen cases having every appearance of malignant disease in one of the uterine labia, in which repeated pregnancies occurred. In one of these cases there seemed to be commencing malignant disease nine years ago. The patient had borne three children since. Had

finally gone East to be operated upon. He had seen her three weeks since; there was but little change; none for three or four years. She was bed-ridden; used enormous quantities of opium. He began to doubt that the tumor was cancerous, yet the symptoms of this disease were present. He questioned whether cancer was not stayed by the normal progress of gestation, as in tuberculosis.

Tobacco and Health.

Dr. AUGUSTUS TRAFTON says, in the Pacific *Medical Journal*:—

The habit of chewing *tobacco* is not so much injurious from the toxic effects of the tobacco, as it is from the waste of saliva in spitting. The habit of chewing gum of various sorts, which is practiced to a considerable extent by our school children, and even by some children of a larger growth, is injurious as far as it engenders a desire to spit. Smoking tobacco may be classed in the same category; and I believe is more injurious from the loss of saliva than in any other way. Within the past few years I have taken the pains to inquire of great smokers as to the effect the practice of smoking seemed to exert on their systems. The result may be summed up in a very few words, loss of weight, anorexia, pyrexia, constipation of the bowels, and a morbid excitability of the nervous system. Nevertheless, I found two persons who seem to be exceptions to the general rule: one in San Francisco, and one in this city. They are both inveterate smokers, and consume from twenty to twenty-five cigars in twenty-four hours. One of them (the Sacramentan) tells me that he arises in the night at a certain hour "to have his smoke." In neither of these persons could I find, by a rigid cross questioning, any of the ordinary dyspeptic symptoms usually consequent on the habit of smoking to excess. But I found one fact which will go a great way in explaining the anomaly, and that fact is, that neither of these gentlemen *ever expectorates*.

On Thoracentesis.

The *Doctor* quotes from the *Bordeaux Medical*, of May 19, a leading article on Thoracentesis in the Academy of Medicine: "M. Chauffard, the old opponent of thoracentesis, has renewed the majority of the objections he had already urged against this method of treatment when applied to tubercular patients. It is injurious, he said, because it may conduce to a regrettable negligence, and even to forgetfulness of the medical treatment of pleurisy, and perchance because a too rapid evacuation of liquid favors the development of tuberculosis. It is worth noting that this old opponent of thoracentesis does not invoke against the puncture of the chest the purulent transformation which he formerly attributed to the operation. Doubtless, the numerous works published of late years on the subject have demonstrated to him the truth advanced by Trousseau, that the purulence of the liquid is due frequently to delaying the operation. As to the capillary trocars and the different aspiratory apparatuses, in spite of the double advantage which they have of only making an insignificant wound in the chest walls, and thus avoiding the introduction of air, M. Chauffard prefers to these the canula of Reybard and the membranous valve. We believe, contrary to Dr. Chauffard, that the progress accomplished in thoracentesis, in the provinces, in the confidence of practitioners, is in great part due to the capillary trocars and to Dieulafoy's aspiratory apparatus. The smallness of the puncture, the absence of pain, and the evacuation of the liquid without fear of the introduction of air, have reassured the timid. These commence to see that the puncture is not the cause of the purulence of the liquid: it will thus be more frequently practiced, and we are persuaded of its success. For it is a conviction which imposes itself inevitably, in fact, on all who have often employed thoracentesis, that it is one of the best modes of treatment of pleurisy, and that, aided by revulsions and derivations, it assures a prompt and solid cure. With such means combined there is no longer any pleurisy which remains six months, a year, or eighteen months without cure, and only gets well in the end after causing narrowing of the chest and exhaustion.

Iodoform in Syphilis.

The uses of iodoform in syphilis have been pointed out by M. Izard, whose conclusions are ably stated by M. Lapeyrère in *La France Medicale*. It is pronounced a good resolvent in simple bubo. M. Izard orders each morning after a bath an ointment of two parts of iodoform to thirty of lard to be applied to the bubo. In a few days resolution is brought about. If suppuration takes

place the ointment is to be suspended and an opening made, after which poultices are used for three days. Then, dressings with powdered iodoform may be used, or, if suppuration be abundant, a solution in glycerine or alcohol.

Chancrous bubo is not so amenable to this treatment. In the early period the ointment is useful if the limbs be painful. In the second period it is useless. Later, ulceration having occurred, rest is necessary, and, if the suppuration be abundant, repeated injections of the solution should be used, and after each a little cotton wool or charpie soaked in the solution should be introduced into the wound.

The ulcerative syphilides, rupia, gummata, yield rapidly to iodoform, as also do mucous patches. In short, the result of M. Izard's experience is that all venereal ulcerations treated topically by iodoform cicatrize from fifteen to twenty days earlier than under any other treatment.

Gonorrhœal or Urethral Rheumatism.

Dr. THOMAS BOND, in the *Lancet*, proposes the latter term as the proper name for this form of disease, though he does not consider it as strictly rheumatism. It commonly occurs in men of anæmic condition and of sedentary habits, particularly where a gonorrhœa has been treated with copaiba or a long course of antiphlogistics.

The symptoms are anæmia, dull pain in the heels and ankles, pain and effusion in the knee-joints, afterwards affecting the elbows, shoulders, and hands. A peculiar characteristic is a congestion of the sclerotic. This never leads to destructive consequences. The general health begins to suffer. Exacerbations appear in the loins, and profuse perspirations follow; urine is scanty, bowels torpid, skin dry, tongue coated, face hectic, pulse feeble, etc. The urethral trouble varies from a profuse mucopurulent discharge to a very slight gleet.

The general treatment is quinine and hydrochloric acid, or steel and strychnine, with wine, stout, eggs, and high feeding; local applications of a soothing nature, and rest.

Injections of a solution of tannin, half a drachm, tincture of opium, two drachms, to six ounces of water, thrown in every four hours, aid greatly, by checking the discharge. Keep the injection in the urethra about a minute, then let it gradually escape.

He believes that urethral rheumatism is a slow form of pyæmic poisoning, due to a gradual vitiation of the blood by progressive absorption of the urethral discharge; that the discharge being permanently cured, the rheumatism soon can be cured, and will not return, unless from a renewal of the urethral trouble.

General Osseous Metamorphosis.

Recently, at the Pathological Society of London, Mr. EDWARD HAMILTON brought forward a remarkable specimen of morbid deposition of bone. Of the patient, a woman about 30 years old, no satisfactory clinical history existed; she had apparently been of a rickety constitution. After death the thyroid body was found large and congested; the lungs were congested, the left lung being reduced in size. The vascular system was healthy, with the exception of a few specks of atheromatous deposit in the aorta. The abdominal viscera were generally healthy. The skeleton which Mr. HAMILTON exhibited had undergone extraordinary changes. The upper part of the skull was bony, and no bony deposit had taken place in the meninges of the brain. The temporal muscles were atrophied, chiefly from disuse. The lower jaw was entirely anchylosed, and a ridge of bone ran perpendicularly down from the left zygoma. The patient had fed herself through a space formed by the loss of some front teeth. The head was firmly fastened to the cervical vertebræ. The spinal column was curved like the letter S. On the left side a mass of bone had formed in the areolar tissue between the pectoral muscles; and on the right side, in the same situation, a mass of bone bound together the humerus, the coracoid, and acromion processes of the scapula, and the ribs. The pelvis was large and oblique. Massive stalactiform bony processes connected the ilium, trochanter, and femur, on each side. The bones of the legs were comparatively free from disease. The ankle-joints were stiff, and the plantar ligaments were extensively ossified. The erector spinæ muscles were changed into enormous plates of bone running down to the crest of the ilium. The latissimi dorsi had also become metamorphosed, and a ridge ran from the occiput to the left scapula. The whole body had an inclination to the left side; and the left thorax was contracted. Mr. HAMILTON suggested that Nature, in endeavoring to

compensate for a rickety tendency, had acted too energetically, and that an excess of bony deposit had thus occurred. The microscopical examination of the abnormal formation showed the Haversian system of true bone.

Gelatinous Disease of the Wrist-joint.

Professor JOHN WOOD, of London, said in a recent clinical lecture: I have to call your attention to another case of joint disease—gelatinous degeneration of the wrist-joint. I excised the wrist the other day. There we had a swollen, pulpy, elastic mass, not accommodating itself to the shape impressed by the tendons, as a fluid effusion does, but pushing aside the natural structures; in consequence of this, the joint assumes a rounder outline than in fluid effusion. This gelatiniform tendency in the synovial membrane affects the sheaths of the tendons in the same way, and you hardly ever find the disease confined to the joint alone. This contributes to produce a rounded swelling, which, in the earlier stage, is attended with hardly any pain. Why is there no pain? Because the elastic deposit separates the surfaces of the joint, invades, softens, and breaks down the fibrous, cartilaginous and ligamentous structures, and prevents pressure on the nerves of the joint. But pain comes when abscesses form in the softened tissues. They may form all round the joint, yet not communicate with it. Sir BENJAMIN BRODIE was the first to call attention to this form of disease. It is more intractable than any other. In five cases in which I have performed excision, there have been in three the satisfactory result of a tolerably useful, and in one case, movable wrist. In another, however, sinuses still remain, and symptoms of pulmonary tubercle have made their appearance.

Atropia in Diseases of the Eye.

In a recent number of the *British Medical Journal* Mr. C. S. TICEHURST, late dresser in the Eye-wards of Guy's Hospital, writes as follows:—The general rule at Guy's is to use atropia (the strength usually employed being one-fifth of a grain of the sulphate of atropia to an ounce of water) in all cases of ophthalmia in which the pupils are contracted, and to continue to do so until they are dilated; treating the ophthalmia, cornelitis, etc., in other respects, according to their nature. Whether atropia acts by "procuring the eye physiological rest, or by causing contraction of the capillaries," etc., is an important undecided question. It is of the utmost importance, in cases in which the atropia has to be used for a long time, to avoid eczema, etc., of the eyelids, since the swelling of them may become so considerable as to render the application of atropia difficult or impossible; while, if the atropia be not used, the eye may be lost. To avoid this, either atropia gelatine should be ordered, or the patient told how to "drop in the atropia lotion;" this is done by *moistening* a middle-sized camel's hair brush with the atropia lotion, and merely *touching* the inner surface (conjunctiva) of the lower eyelid with the moistened brush. This may be repeated every five or ten minutes, according to the quickness with which we wish to dilate the pupil. The visible object of the use of atropia should be to dilate the pupil; the sooner this is obtained the better. The pupil should be kept dilated until the inflammation is subsiding. If eczema or erysipelas occur, it should be treated by frequently bathing the eyelids with alum lotion (two grains of alum to an ounce of water) and some of the milder ointment of nitrate of mercury to be rubbed on the inflamed part at bedtime, the use of the liquid atropia or that of the atropia gelatine being continued at the same time.

CORRESPONDENCE.

Case of Poisoning by Cantharides.

EDS. MED. AND SURG. REPORTER:—

On the afternoon of June 14th, 1872, the husband of Mrs. N. called for me, in great haste, saying his wife had, in mistake, taken Cantharides. On arriving at the house I found she had taken, as nearly as I could estimate from her statement, upwards of fifty grains. She was suffering with violent spasmodic pains of the stomach, accompanied by free emesis. Also great irritability and severe pain of the urinary organs, particularly of the bladder, attended by frequent micturition.

As her stomach had already been relieved by emesis, I, of course, gave no emetic. With the object of neutralizing whatever of the cantharides might remain in the stomach, I

administered charcoal. I also ordered the following:—

℞. Tr. opii,
Tr. camphor.,
Buchu ext. fl.,
Spr. æth. nit., aa f℥ss. M.

S. One teaspoonful to be taken at a dose, repeated according to the urgency of the symptoms.

In connection with the above I also gave a few powders of morphia.

Locally, I ordered a mustard sinapism over the stomach, followed by anodyne poultices; also warm applications over the bladder.

Under the above treatment the symptoms were soon relieved, and in the course of a few hours she was comparatively recovered.

A noticeable feature in the effects of the cantharides was its action upon the pulse, causing it to fall to about fifty per minute.

L. B. KLINE, M. D.

Catawissa, Pa., June 21, 1872.

Singular Abdominal Tumor—Autopsy.

EDS. MED. AND SURG. REPORTER:—

The following case merits a description:—

Mrs. C——, of Galesburg, Michigan, has for the last fifteen years suffered from severe pain in the back, confined to the lumbar region. About six years since a tumor was detected beneath the linea alba, just above the pubes. From this point it slowly and constantly ascended, from its increasing size, until it filled the abdomen, pressing beneath the ensiform cartilage, and rendering the linea alba like a tense cord, especially its upper portion.

For the past two years there has been severe pain in the right iliac region, and in the right hip, often very excruciating.

Several months since I attempted an examination of the tumor. From its position, and the slowness of its growth, I expected to find it uterine, of the fibroid class.

In the os uteri there hung a small polypus, and the *sound* passed but a short distance—no farther than though it was in a normal condition.

A number of experienced surgeons examined it subsequently, among whom were Drs. Hitchcock and Upjohn, of Kalamazoo, and Prof. Byford, of Chicago. There were several opinions as to its nature and connections amongst us, one considering it uterine, another ovarian, and another neither, etc.

She died June 12, 1872, æt 52 years.

AUTOPSY, TWENTY HOURS AFTER DEATH.

On laying aside the parietes of the abdomen, the bowels were found much displaced by the tumor, and adherent to it wherever they came in contact with it. The stomach was not adherent, but the duodenum was embraced in it to the extent of three inches, it seeming to permeate its walls, and from which it could not well be dissected. The arch of the colon was much depressed and firmly attached, and the greater omentum agglutinated to it.

In the right side, where so much pain had been felt, the kidney was enveloped by the tumor, and removed in i'. The kidney, however, was much atrophied, little remaining but the cortical portion. It was attached to the spinal column by its posterior surface, from the prominence of the sacrum up to the first dorsal vertebræ. This attachment was firm enough to have sustained the weight of the whole body.

This growth undoubtedly had its origin from the prominence of the sacrum, and thence extended upward, because, as the swelling of the abdomen increased, the tumor constantly ascended. The left kidney was not involved. *It had no connection whatever with the uterus or ovaries.*

At its summit it was attached on the right side to the liver, to the extent of two square inches. On being removed it weighed about five pounds. It proved to be a firm, leathery, *fibroid* mass, and perfectly uniform from surface to centre.

The lady strongly desired its removal during life, and was somewhat encouraged to submit to an operation by some who pronounced it an "ovarian tumor," which might be removed with little danger. She and the family were restrained from so rash a proceeding by physicians in whose judgment they confided, and she was allowed to die a natural death.

The post-mortem examination showed most conclusively how impotent for good, and how potent for harm, such a procedure must have been.

M. W. ALFRED, M. D.

Galesburg, Mich.

MARRIAGES.

VANKIRK—DRABELL.—June 20, at the residence of the bride's mother, Morgantown, West Virginia, by Bishop Whelan, of Wheeling, West Virginia, W. F. Vankirk, M. D., of Newburg, West Virginia, and Miss Anna H., second daughter of the late John R. Drabell, Esq.